

1 1. The method comprising:
2 receiving image data; and
3 simultaneously determining at least two filters
4 of different sizes from said data.

1 2. The method of claim 1 wherein receiving data
2 includes receiving a matrix of data having rows and
3 columns, and reducing the number of rows and reducing the
4 number of columns.

1 3. The method of claim 2 including adding rows
2 together and adding columns together.

1 4. The method of claim 1 including progressively
2 calculating filters from smaller to larger sizes.

1 5. The method of claim 4 including receiving image
2 data values, adding the values together, and multiplying
3 the values by convolution coefficients.

1 6. The method of claim 5 including reusing the
2 results of said additions and multiplications calculated
3 for one filter size, when calculating a filter of a larger
4 size.

1 7. The method of claim 1 including receiving data
2 values in rows and columns, and adding together data values
3 along diagonals.

1 8. The method of claim 1 including calculating at
2 least two filters for a first pixel among said image data
3 and then calculating a filter for an adjacent pixel.

1 9. The method of claim 1 including simultaneously
2 generating at least three filters of different sizes.

1 10. The method of claim 1 including successively
2 calculating filters of progressively larger size.

1 11. An article comprising a medium storing
2 instructions that enable a processor-based system to:
3 receive image data; and
4 simultaneously determine at least two filters of
5 different sizes from said data.

1 12. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 reduce the number of rows of image data and reduce the
4 number of columns of image data.

1 13. The article of claim 12 further storing
2 instructions that enable the processor-based system to add
3 values associated with rows together and to add values
4 associated with columns together.

1 ~~14. The article of claim 11 further storing~~
2 instructions that enable the processor-based system to
3 progressively calculate filters from smaller to larger
4 sizes.

1 15. The article of claim 14 further storing
2 instructions that enable the processor-based system to
3 receive image data values, add the values together, and
4 multiply the values by convolution coefficients.

1 16. The article of claim 15 further storing
2 instructions enable the processor-based system to reuse the
3 results of said additions and multiplications calculated
4 for one filter size, when calculating a filter of a larger
5 size.

1 17. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 receive data values in rows and columns, and add together
4 data values along diagonals.

1 18. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 calculate at least two filters for a first pixel among said
4 image data and then calculate a filter for an adjacent
5 pixel.

1 19. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 simultaneously generate at least three filters of different
4 sizes.

1 20. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 successively calculate filters of progressively larger
4 size.

1 21. The system comprising:
2 a first set of adders to add together rows and to
3 add together columns of image data; and
4 a second set of adders and a first set of
5 multipliers to calculate at least two different filter
6 sizes from said image data.

1 22. The system of claim 21 that progressively
2 calculates filters from smaller to larger sizes.

1 23. The system of claim 22 that utilizes the results
2 from said second set of adders and first set of multipliers
3 for one filter size, when calculating a filter of a larger
4 of a larger size.

1 24. The system of claim 21 including a state machine
2 that controls the operation of said first and second adders
3 and said first set of multipliers.

- 1 ~~25. The system of claim 21 wherein said second set of~~
2 ~~adders adds image data along diagonals.~~

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